

REMARKS

Reconsideration of claims 1-17 and new claims 18-19 is respectfully requested. Claims 1-5, 7-11 and 13 were amended.

The rejection of claims 11 and 13 under 35 U.S.C. §102(b) as being anticipated by Fruchtnict (U.S. 3,620,939) is respectfully traversed with respect to the amended claims. Fruchtnicht describes a process for providing a protective coating on a magnesium substrate. The process includes preparing an electroplating bath solution containing ammonium bifluoride, ammonium vanadate and an additional ingredient. The additional ingredient can be selected from a list of fourteen compounds (claim 2), of which two are a source of permanganate ion. The substrate is added to the bath solution and a potential of approximately 135-175 DC volts is applied. The magnesium substrate functions as the anode in the electrochemical plating process.

Applicants' passivation coating is based on an electroless process, that is, there is no voltage potential applied to the substrate. Instead, Applicants simply dip the magnesium substrate into the coating solution. On page 8, lines 1-4 of the application, Applicants describe that the "conversion coating is obtained by an "electrolytic, current-free process". Claims 11 and 13 have been amended to include the term "electroless" to distinguish their coating over that described by Fruchtnicht. Accordingly, Applicants respectfully request that the rejection be withdrawn.

The rejection of claims 1-2, 12 and 14-16 under 35 U.S.C. §103(a) as being unpatentable over Fruchtnicht is respectfully traversed with respect to the amended claims. Claim 1 was amended to include the term "electroless". Claim 2 was amended to define the electroless conversion coating by the process by which it is made. This process is not an electrochemical process described by Fruchtnicht. Accordingly, Applicants respectfully request that the rejection be withdrawn.

The rejection of claims 1-17 under 35 U.S.C. §103(a) as being unpatentable over Matsufumi (JP '073) in view of Paez (U.S. 1,723,067) is respectfully traversed with respect to the amended claims. Matsufumi describes a process for providing a protective coating on magnesium substrates by dipping the substrate in a solution containing permanganate ion. The solution can also contain a reforming accelerator, namely a source of fluoride ion. As the Office

Action recognizes, Matsufumi does not teach the "inclusion of vanadate, molybdate, or tungstate." Office Action, Page 5, last paragraph.

Paez describes a process for providing a protective coating on magnesium substrates by dipping the substrate in a solution containing molybdate and a source of fluoride ion. Paez also describes that the coating can be applied to various metal and alloyed substrates including iron, steel, tin, aluminum and alloyed lead and magnesium.

The Office Action asserts that "one of ordinary skill in the art would have found the [Applicants'] invention obvious because one... would have been motivated to add molybdate or tungstate to the solution of [Matsufumi]." Applicants disagree. Also, Applicants note that they could not identify any reference to the use of tungstate in Paez, as stated in the Office Action.

A proper *prima facie* case of obviousness requires that there be some suggestion in the cited references with regard to the proposed combination. Matsufumi teaches permanganate and fluoride. Paez teaches molybdate and fluoride. There is no suggestion to use permanganate with molybdate, or any reference that the proposed combination of the two oxides would provide an improved coating on magnesium substrates.

As the Court has repeatedly recognized, most if not all inventions arise from a combination of old elements. *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457 (Fed.Cir.1998). "Thus, every element of a claimed invention may often be found in the prior art. However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention." *In re Kotzab*, 217 F.3d 1365 (Fed. Cir. 2000), citing *Rouffet*, 149 F.3d 1357. In fact, "[w]here claimed subject matter has been rejected as obvious in view of a combination of prior art references, a proper analysis under § 103 requires, *inter alia*, consideration of two factors: (1) whether the prior art would have suggested to those of ordinary skill in the art that they should make the claimed composition or device, or carry out the claimed process; and (2) whether the prior art would also have revealed that in so making or carrying out, those of ordinary skill would have a reasonable expectation of success. *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991), citing *In re Dow Chemical Co.*, 837 F.2d 469, 473, (Fed.Cir.1988) (emphasis added).

Both the suggestion and the reasonable expectation of success must be provided in the prior art, not in the applicant's disclosure. *In re Vaeck*, 947 F.2d 488. In other words, the prior

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art must provide "some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant." *In re Rouffet*, 149 F.3d 1357, citing, *In re Dance*, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637 (Fed.Cir.1998); see also, *Fromson v. Advance Offset Plate*, 755 F.2d 1549 (Fed. Cir. 1985) ("The critical inquiry is whether 'there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination.'" (Emphasis in original).

Applicants maintain that the teachings of Matsufumi and Paez fail to meet either factor of the Vaecck test, let alone satisfy both factors as required. What was not known in the art, and more importantly, what is not suggested in the cited references is the overall advantage of using permanganate in combination with an oxide of vanadium, molybdenum, of tungsten to provide an electroless conversion coating for magnesium based substrates that perform just as well as coatings based on chromium, a very non-environmentally friendly and potentially toxic process.


In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Please charge our Deposit Account No. 22-0185, under Order No. 21806-00086-US from which the undersigned is authorized to draw.

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Respectfully submitted,

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